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Extraction of scandium ions by new aminophosphinyl extractants

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Abstract

Extraction of Sc(III) ions by new aminophosphinyl compounds containing one or two methylenediorganylphosphinyl groups at the nitrogen atom was studied with a target of the development of effective and selective extractants of trace elements. The selection of extractants was due to their high hydrolytic stability in the acid media, commonly used at the extraction of metal ions in the industrial hydrometallurgical processes. The study of extraction of hydrogen chloride and nitric acids with the selected aminophosphinyl compounds allowed a discovery of substances with the low basicity, which were characterized by the low coefficient of the acids extraction. Highly effective extractants of Sc(III) were found possessing high coefficients of extraction and high degree of selectivity in the separation of Sc(III) ion from the ions of satellite metals. © Pleiades Publishing, Ltd., 2009.

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